

The Impact of the Interest Amount on the Credit Facilities Amount and Deposits Amount in Jordanian Commercial Banks for the Period (1995-2013)

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Abstract:

This study aimed to identify the interest amount on the Credit facilities amount and deposits amount in Jordanian commercial banks for the period (1995-2013). To achieve the objective of the study; the researcher used an econometric model of linear regression shows the relationship between the variables of study by using non-parametric method through unit root test (Augmented Dickey-Fuller (ADF)). Furthermore, the results of the study showed that there is a positive statistical significant impact of the interest amount on the amount of credit facilities in Jordanian commercial banks for the period (1995-2013), and there is a statistically significant positive impact of the interest amount on the amount of deposits facilities in Jordanian commercial banks for the period (1995-2013). The study suggested a recommendations such as the need for attention to the client's interests with regard to the debtor rates favourable due to customer deposits to its clients, to contribute to not only maintain current customers but also attract more of them thus giving the bank the opportunity to provide and create financial resources to be able to expand its operational activities and investment activities in hopes of maximizing its profits and service its clients and optimally.

Keywords: interest amount, Credit facilities amount, deposits amount, unit root test (ADF)

1- Introduction

The commercial banks currently play an important role in the economic development of countries and support these countries economically, through appropriate channels for mobilizing savings and deposits and then invested in the development of sustainable and inclusive economic projects contribute to the development and growth of countries economically.

The credit facility is one of the most important sources to provide all employees in the economic activity, by present capital to facilitate financial exchanges or trading, as well as to establish projects of various kinds and for its many tasks, including post production financing, It also creates The settlement of exchanges in addition to consumer credit, and help to increase production volume, and the accumulation of profits in many Installations, the commercial banks by doing This task granted by the leading centres in the management of economic development in different countries and over time.

1.1. The study problem

It is known that interest amount affect in many aspects, but the researcher in this study was limited to only two, which are a study of the impact of interest amount on the credit facilities amount on the one hand and on the other hand, deposits amount. Therefore the problem study can be formulated to study the following questions:

- a- What the impact of the interest amount on the credit facility amount in Jordanian commercial banks?
- b- What the impact of the interest amount on deposits amount in Jordanian commercial banks?

1.2. The study importance.

This study contributes to the clarification of the impact of the interest amount on the credit facility amount and deposits amount in Jordanian commercial banks over eighteen years and to know the amount of the affected credit and deposits negatively or positively and does it increase the amount of the facilities has an impact on the amount of interest, as well as the amount of the deposits has an impact on the amount of the interest.

1.3. The study objectives.

This study aimed to describe the impact of the interest amount on the credit facility amount, interest amount on the one hand and on the other hand, deposits amount at commercial banks for the period (1995-2013), Therefore study objectives can be summarized as follows:

- 1- Identify the impact of the interest amount on the amount of the credit facilities to Jordanian commercial banks for the period (1995-2013).
- 2- Identify the impact of the interest amount on the amount of the deposits facilities to Jordanian commercial banks for the period (1995-2013).

1.4. The study hypotheses.

- 1- There is a statistically significant positive impact of the interest amount on the amount of credit facilities in Jordanian commercial banks for the period (1995-2013).
- 2- There is a statistically significant positive impact of the interest amount on the amount of deposits facilities in Jordanian commercial banks for the period (1995-2013).

2. Literature Review

-In the study of Giorgio Di Giorgio, Zeno Rotond (2013): financial stability, interest rates and the inevitability of balance: This study examines the interaction between monetary policy and financial stability of commercial banks, Researcher provides an assessment of the implications of practices of banks in managing the risks associated with fluctuations in monetary policy from time to time by considering the willingness of Central Bank to achieve monetary stability to meet different types of risks facing monetary market, and is relying on a set of statistical methods based on some rules for interest rates which characterized by homogeneity of interest rates in the past or future, the researcher found that the practice of interest rates homogeneous in the banking sectors in the past contributed to alleviate many problems facing banks of the lack of stability and balance, and Moreover it has formed the basis for the financial stability and thus avoid many of the risks that lead to the safety of banks financial statements usually arise after excessive anxiety regarding the extent to which the capacity of the various financial institutions in maintaining the financial stability of banks.

- Study, Beng Soon Chong (2013) entitled: impact of interest rate liberalization on the effectiveness of monetary policy: this study examines the impact of interest rate regulation and it's liberalization later on the effectiveness of monetary policy and prices of retail activities in commercial banks and the stagnation of bank deposits in Hong Kong, the researcher has founded that the liberalization of interest rate increases the effectiveness of monetary policy by improving the relationship between interest rates on retail bank deposits and interest rates in the market and increase the long-term average and who became a guide interest rates on retail deposits .

- Study, (Stelios Karagiannis, Yannis Panagopoulos, Prodromos Vlamis 2010) Interest rate pass-through in Europe and the United States: In the following of the financial crisis for monetary policy.

Examine the interest rate transmission mechanism for the euro zone and the United States and to discuss this issue in light of recent tensions in the financial markets to effective monetary policy, it is meant any change in the Central Bank's rate policy for transmission to retail interest rates, and ultimately impact on the consumer and business lending rates and total domestic demand So lets us detect the relative importance of Central Bank money market rates and banking systems, the researcher believes that this study is interesting for its vision in monetary policy and make proposals may help regulatory authorities try to monitor and promote the effectiveness of monetary policy.

- Study, (Nadee Kanakri, 2009) entitled: "The determinants of interest margin in Jordanian commercial banks", This study aimed to identify the most important determinants of interest margin, and metrics used to measure the interest margin, and the historical development of the margin for the Jordanian commercial banks and factors affecting it, and the reasons for make it large. And multiple regression were used to measure the relationship between the independent variable and the dependent, the study concluded the existence of statistically significant negative correlation between both doubtful allocations and revenue from non-interest banks and between the interest margin, In addition to having a positive relationship with statistical significance between the operational and administrative expenses and interest margin. While no statistically significant relationship between the legal reserve and interest margin.

- Study, (Ayman Alham, 2006) entitled: "Internal factors specific to the decision to grant credit facilities and direct impact on the faltering facilities", the aim of this study was to identify factors internal to the decision to grant credit facilities and its impact on the faltering facilities for the period (1998-2003) as well as to find the relationship between the internal factors for the decision grants and its relationship to stumble through three stages starting internal work environment and through credit decision-making and follow-up phase through parties participating in the employee section facilities management, and senior management with the adoption the descriptive and inferential in view of this study and draw conclusions based on the data of the Central Bank of Jordan, and Jordanian banks represented by annual reports the significance of study being combines internal factors affecting direct banking facilities granted by the Bank itself and between the find these facilities thus any parties that have the greatest impact in the tumble these facilities, the study found no statistically significant relationship exists between internal work environment and decision point and defaulting facilities on the other hand, While the results showed statistically significant relationship exists between the follow-up phase, and defaulting facilities.

- Study, (Lama Omar, 2004) entitled: "Banking risks and their impact on credit facilities for Jordanian commercial banks for the period (1988-2002)", and the aim of this study is to analyze the impact of banking credit risks of Jordanian commercial banks for the period (1988-2002). Where is the reference in the study of the

development of the credit facilities offered by commercial banks, as well as to identify the factors affecting them, It also analyzed the banking and risk indicators and measurement standards, where commercial banks are divided into four categories based on the size of assets, to take account of differences in the sizes of the banks, and then one bank was selected from each group, and calculation of the indicators for each type of risk and to study their impact on credit to each bank separately and the results of this study showed that there was a discrepancy in the impact of banking risks on credit facilities, as for the risk of increased interest lead to reducing the size of the facilities granted by the Arab Bank, as for the credit risk has led to reduced size of Cairo bank facilities. The results of the study indicated that a reduced of capital risk leads to increased Arab Bank credit facilities, while lower these risks lead to reduce the size of the Al Ahli bank credit facilities.

- Study, (Bowdler and Bluedoen, 2006) entitled: "Open economy codependence: U.S. Monetary Policy and Interest Rate Pass –through", the objective of the research was to study the international transition under fixed interest rates and unencumbered by the exchange rate regime, hey distinguish between movements of interest rates and its predictable, the results of the study indicated that forecasting trends in monetary policy that depends on the interest rate and this can be in the United States. The results indicated that the change in the federal funds rate is unpredictable, independent, study found that the maximum interest rate is predictable, even though economic and monetary environment surrounding these variables.

- Study, (Jung ,Niu,Wang,Lin, 2005) entitled:" Monetary Policy and Interest Canonical Dynamics Mechanism of Rate", The study has indicated that interest rates are a key element of financial and economic activities, and its movements are the key drivers of the capital market and capital flows at the global level, and in the United States the Federal Bank (Federal Reserve) use interest rate permanently to determine borrowing rates between banks, it is the basic tool for consolidating monetary policy to maintain sustainable development, growth and price stability. And the Federal open market Committee balance between growth and inflation by adjusting interest rates, Interest rates are a centerpiece of United States monetary policy.

What distinguishes this study from other studies?

Studies that addressed the topic of interest amount and the credit facilities amount and deposits size, limited studies especially the Arabic ones, besides that studies on this topic (within the limits of researcher's knowledge), Did not address the impact of interest amount on the amount of credit facilities and deposits in the Jordanian commercial banks.

Study limitations:

This study has been limited to five commercial banks to be the study sample, and the difficulty of obtaining data last year (2013), By contrast, one of the most important challenges faced by the researcher of the scarcity of studies on the impact of the amount of the interest on the credit facility and deposits.

3. Empirical study:

3.1. Methodology

To achieve the objective of the study, we have built a model of linear regression shows the relationship between the variables of study as follows:

$$I.R. I = \alpha + \beta_1 TC + \varepsilon_i \dots\dots\dots(1)$$

$$I.R. II = \alpha + \beta_2 TD + \varepsilon_i \dots\dots\dots(2)$$

Where:

IR: Interest Rate

TC: Total Credit

TD: Total Deposits

ε_i : Total residuals.

β_1, β_2 : slopes of the models.

α : constant.

Data: For the purposes of statistical analysis was made using time-series data for variables that are described in the regression equations for the period (1995-2013), Where the researcher rely on secondary sources for data collection of books, periodicals, theses, and websites, In addition to that the monthly and annual reports of the Central Bank.

3.2. Unit Root Tests

If the time series high sample autocorrelated to the lag period, it will violate the hypothesis of White noise disturbances, so **Dickey-Fuller test (DF)** no longer feasible, **Augmented Dickey-Fuller test (ADF)** becomes enlarged solved the problem by building a corrective model of high correlation, assuming that the time series (Y_t) subject to autoregression model (AR_p).

$$Y_t = Y_{t-1} + \sum_{i=1}^m \alpha_i Y_{t-i} + \epsilon_t$$

This test investigates the null hypothesis (having a unit root) through the use of the (t) test however this test does not solve the problem of the serial correlation errors in the same way of the Dickey fuller test, which means parametric method; but it is handled with non-parametric method through unit root test (Augmented Dickey-Fuller (ADF)) by using statistical programme (E-Views-7), In accordance with the following cases:

1- Intercept and trend case:

Table (1) shows the results of Augmented Dickey-Fuller test (ADF) for stationary with intercept and trend, where is rejected the null hypothesis if the absolute value calculated is greater than the absolute critical value in the test.

$$DF_{Cal.} \leq DF_{tab.} \quad \text{Reject } (H_0).$$

Table No. (1)

Augmented Dickey-Fuller test (ADF) for stationary with intercept and trend

Variable	Calculated value	Critical value			The decision
		1%	5%	10%	
Total Credit	-6.882	-4.901	3.851-	3.212-	Reject (H_0)
Total Deposits	-7.059	-4.271	3.699-	3.001-	Reject (H_0)

Sources: Prepared by the researcher based on statistical package (E-views-7)

2- Intercept case:

Table (2) shows the results of Augmented Dickey-Fuller test (ADF) for stationary with intercept, where is rejected the null hypothesis if the absolute value calculated is greater than the absolute critical value in the test.

$$DF_{Cal.} \leq DF_{tab.} \quad \text{Reject } (H_0).$$

Table No. (2)

Augmented Dickey-Fuller test (ADF) for stationary with intercept

Variable	Calculated value	Critical value			The decision
		1%	5%	10%	
Total Credit	-9.627	-4.228	3.434-	2.733-	Reject (H_0)
Total Deposits	-8.551	-4.692	3.715-	3.845-	Reject (H_0)

Sources: Prepared by the researcher based on statistical package (E-views-7)

3- Without intercept and trend case:

Table (3) shows the results of Augmented Dickey-Fuller test (ADF) for stationary and without intercept and trend, where is rejected the null hypothesis if the absolute value calculated is greater than the absolute critical value in the test.

$$DF_{Cal.} \leq DF_{tab.} \quad \text{Reject } (H_0).$$

Table No. (3)

Augmented Dickey-Fuller test (ADF) for stationary without intercept and trend

Variable	Calculated value	Critical value			The decision
		1%	5%	10%	
Total Credit	-6.882	-4.901	3.851-	3.212-	Reject (H_0)
Total Deposits	-7.059	-4.271	3.699-	3.001-	Reject (H_0)

Sources: Prepared by the researcher based on statistical package (E-views-7)

Through previous results, we can judge that the time series are stationary at the level I (0), by comparing the results of Augmented Dickey-Fuller test (ADF), referred its results to the stationary of both the amount of the credit facilities available, deposits and it is stable at significant level (1%).

4. Empirical results

The researcher calculates measures of central tendency (arithmetic means and standard deviations) and measures of dispersion (lowest value and highest value) of the study variables, as a sample of selected banks. Have been using the method of least squares (OLS) to estimate the parameters of the function of the impact of interest amount on credit and deposit amount of Jordanian commercial banks for the study sample which was limited to five banks, which are: (Housing Bank, Arab Bank, Al-Ahli Bank, Bank of Jordan, and Jordanian Kuwait Bank) through time-series data for the period (1995-2013) to estimate the parameters of the study model

The results for the first hypothesis: The first hypothesis stipulates: There is a positive statistical significant impact of the interest amount on the amount of credit facilities in Jordanian commercial banks for the period (1995-2013).and to verify this hypothesis, Arithmetic mean and deviations were calculated for the amount of the

interest and the amount of credit facilities to Jordanian commercial banks for the period (1995-2013), this shows in the table (4)

Table (4)
Arithmetic mean and standard deviations for amount of the interest and the credit facilities amount

Variables	Statistical indicators	
	Arithmetic mean	Standard deviation
Amount of the interest	252154710.03	30.7269328
credit facilities amount	2255472333.02	29.87463239

Table (4) shows that the arithmetic mean for the amount of interest rate reached (252154710.03) with standard deviation (30.7269328), while the arithmetic mean for the amount of credit facilities for the Jordanian commercial banks (2255472333.02) with standard deviation (29.87463239), Person's correlation coefficient was calculated, and determinant coefficient (R^2) and the adjusted determinant coefficient (R^{-2}) and the value of estimated standard error, between the amount of the interest and the amount of credit facilities to Jordanian commercial banks for the period (1995-2013), this shows in the table (5)

Table (5)

Person's correlation coefficient and determinant coefficient (R^2) and the adjusted determinant coefficient (R^{-2}) and the value of estimated standard error, between the amount of the interest and the amount of credit facilities

Person's correlation coefficient	determinant coefficient (R^2)	adjusted determinant coefficient (R^{-2})	estimated standard error
.967	.935	.934	767674466.10

Table (5) shows there is a strong positive correlation between the interest amount and credit facilities amount in the Jordanian commercial banks for the period (1995-2013) it has also been conducting a Regression Analysis Test, this shows in the table (6).

Table (6)

The results of the regression analysis of the impact of variable interest amount on the amount of the credit facilities

Variable	Beta	$t_{cal.}$	significant level	Explained Variation	The decision
Constant	-115228125.931	-.896	.374	93.42%	Reject (H_0)
credit facilities amount	9.402	28.905	.000*		

) Statistically significant level ($\alpha = 0.05^*$)

Table (6) shows there is existence of statistically significant level effect at ($\alpha = 0.05$) for the impact of variable interest amount on the amount of the credit facilities, and the value of variance ratio explained for the impact of variable interest amount on the amount of the credit facilities amounted (93.42%), and the value of beta (9.402) at statistically significant level ($\alpha = 0.05$).

The results for the second hypothesis: The first hypothesis stipulates:

There is a statistically significant positive impact of the interest amount on the amount of deposits facilities in Jordanian commercial banks for the period (1995-2013). And to verify this hypothesis, Arithmetic mean and standard deviations were calculated for the amount of the interest and the deposits amount of in Jordanian commercial banks for the period (1995-2013), these shows in the table (7)

Table (7)
Arithmetic mean and standard deviations for amount of the interest and the deposits amount

Variables	Statistical indicator	
	Arithmetic mean	Standard deviation
Amount of the interest	252154710.03	30.7269328
deposits amount	4118590240.17	52.15023079

Table (7) shows that the arithmetic mean for the amount of interest rate reached (252154710.03) with standard deviation (30.7269328), while the arithmetic mean for the amount of deposits for the Jordanian commercial banks (4118590240.17) with standard deviation (52.15023079), Person's correlation coefficient was calculated, and determinant coefficient (R^2) and the adjusted determinant coefficient (R^2) and the value of estimated standard error, between the amount of the interest and the amount of deposits to Jordanian commercial banks for the period (1995-2013), this shows in the table (8) .

Table (8)
Person's correlation coefficient and determinant coefficient (R^2) and the adjusted determinant coefficient (R^2) and the value of estimated standard error, between the amount of the interest and the amount of deposits

Person's correlation coefficient	determinant coefficient (R^2)	adjusted determinant coefficient (R^2)	estimated standard error
.864	.747	.743	2646225120.03

Table (8) shows there is a strong positive correlation between the interest amount and deposits amount in the Jordanian commercial banks for the period (1995-2013) it has also been conducting a Regression Analysis Test, this shows in the table (9).

Table (9)
The results of the regression analysis of the impact of variable interest amount on the amount of deposits

Variable	Beta	$t_{cal.}$	significant level	Explained Variation	The decision
constant	420043498.638	.947	.374	74.70%	Reject (H_0)
credit facilities amount	14.668	13.082	.000*		

) Statistically significant level ($\alpha = 0.05^*$)

Table (9) shows there is existence of statistically significant level effect at ($\alpha = 0.05$) for the impact of variable interest amount on the amount of the deposits, and the value of variance ratio explained for the impact of variable interest amount on the amount of the credit facilities amounted (74.70%), and the value of beta amounted (14.668) at statistically significant level ($\alpha = 0.05$).

5. Results and recommendations

5.1. Results:

- 1- There is a strong positive correlation between the interest amount and the credit facilities amount in Jordanian commercial banks for the period (1995-2013).
- 2- There is an important impact of variable interest on the amount of the credit facilities provided by Jordanian commercial banks for the period (1995-2013).
- 3- There is a strong positive correlation between the interest amount and deposits in Jordanian commercial banks for the period (1995-2013).
- 4- There is an important impact of variable interest amount on deposits amount obtained by Jordanian commercial banks for the period (1995-2013).

5.2. Recommendations:

- 1- Under strong competition faced by Jordanian banking sector and to maintain the market share of each bank from customers, the researcher recommends taking always into account the balance between the interests of the Bank and the client with respect to creditor interest rates.
- 2- The researcher recommends the need for attention to the client's interests with regard to the debtor rates favourable due to customer deposits to its clients, to contribute to not only maintain current customers but also attract more of them thus giving the bank the opportunity to provide and create financial resources to be able to

expand its operational activities and investment activities in hopes of maximizing its profits and service its clients and optimally.

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